



PATENT ABSTRACTS OF JAPAN

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(21) Application number: **61202349**(22) Date of filing: **27.08.86**(71) Applicant: **NOBORU DENKI SEISAKUSHO:KK**(72) Inventor: **SAKANOU E HISAFUMI**(54) **ANSWER BACK SPEAKER**

(57) Abstract:

PURPOSE: To monitor the operation of a speaker by disposing a piezoelectric element at a position where the back pressure of a diaphragm is applied to the back side of the diaphragm.

CONSTITUTION: In the driver unit of a horn loudspeaker, the piezoelectric element 31 is attached to a position opposite to the backward the diaphragm on center piece 28. The piezoelectric element 31 is circular in shape and has a limb supported by a supporting member 33 and the supporting member 33 is bonded to the center piece 28. The piezoelectric element 31 receives the vibration of air at the back face of the diaphragm 23 and outputs an electric signal. This system is simple since only the piezoelectric element is added to the center piece of the conventional unit and a completely large piezoelectric element output can be obtained since it is closely disposed backward of the diaphragm. The piezoelectric element 31 may be attached to the back face of a bottom plate 27. According to the constructions, since the thin piezoelectric element is attached to the position to which the back pressure of the diaphragm is applied, an answer back speaker which

is easily installed is obtained without sacrificing the output frequency characteristic of the speaker.

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